

## PROJECT DESCRIPTION

### GENERAL

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF TOLLGATE ROAD AND BOULTON ROAD IN HARFORD COUNTY. TOLLGATE ROAD IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

### INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA FIVE-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE TOLLGATE ROAD APPROACHES OPERATING CONCURRENTLY AND THE BOULTON ROAD/SHOPPING CENTER ENTRANCE APPROACHES OPERATING CONCURRENTLY.

EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING IS PROVIDED FOR SOUTHBOUND TOLLGATE ROAD APPROACH.

### CONTROLLER REQUIREMENTS

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH TWO (2) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS, INTERSECTION MONITOR WITH BATTERY BACKUP FOR PHONE DROP AND ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "5" POLE MOUNTED CABINET.

### PHONE DROP

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 487-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER OF THE NEAREST STREET ADDRESS, ZIP CODE, AND PHONE NUMBER.

## MAINTENANCE OF TRAFFIC

THE FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT.

STANDARD NO. MD-104.00 - 104.00-30

STANDARD NO. MD-104.02-01 (FLAGGING OPERATION)

STANDARD NO. MD-104.03-01 (INTERSECTION FLAGGING OPERATION)

STANDARD NO. MD-104.04-01 (SHOULDER WORK)

STANDARD NO. MD-104.60 (MOBILE OPERATION)

## PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. DAVE MALKOWSKI  
DISTRICT ENGINEER  
PHONE: (410) 321-3461

MR. RANDALL SCOTT  
ASSISTANT DISTRICT ENGINEER - TRAFFIC  
PHONE: (410) 321-3514

MR. DAVE RAMSEY  
ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
PHONE: (410) 321-3468

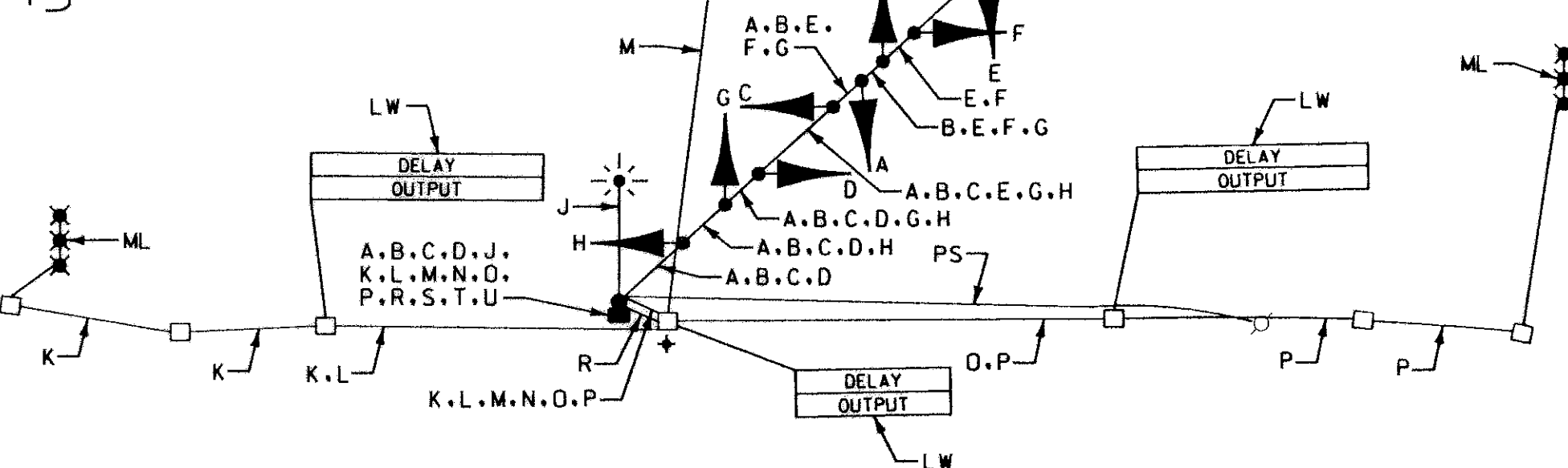
MR. JOE MCMAHON  
DISTRICT UTILITIES ENGINEER  
PHONE: (410) 321-3456

MR. RICHARD L. DAFF, SR.  
CHIEF, TRAFFIC OPERATIONS DIVISION  
PHONE: (410) 787-7630

## WIRING DIAGRAM

### WIRING KEY

- A  
B  
C  
D } 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- E  
F  
G  
H } 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
- J } 2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.)
- L  
M  
N  
O } 2-CONDUCTOR ELECTRICAL CABLE ALUMINUM SHIELDED (NO. 14 A.W.G.)
- K  
P } MICROLOOP PROBE LEAD-IN



R } STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

S  
T  
U } 1-CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)

LW - LOOP WIRE (NO. 14 A.W.G.)

ML - MICROLOOP PROBE SET

PS - PROPOSED UNDERGROUND ELECTRICAL SERVICE

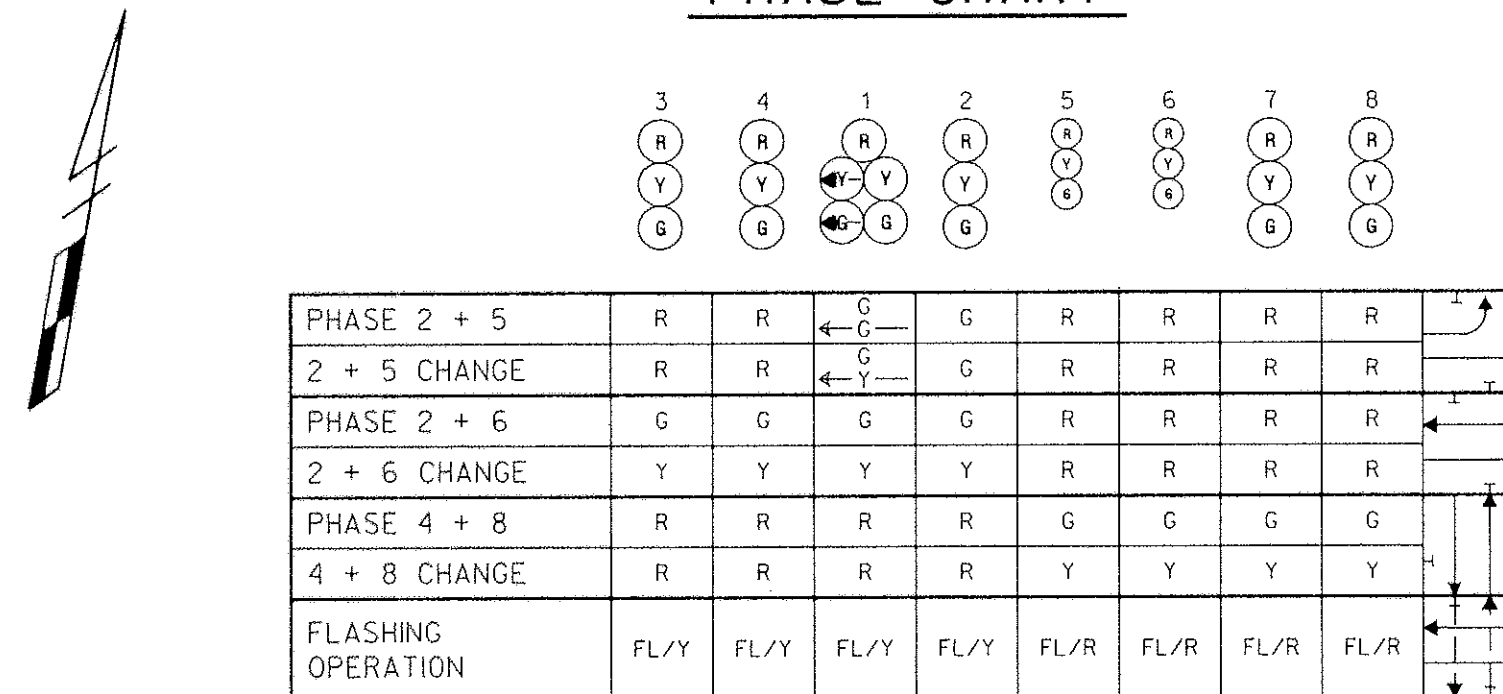
+ - 3/4 IN. X 10 FT. GROUND ROD

## EQUIPMENT LIST "A"

### A. EQUIPMENT TO BE SUPPLIED BY THE SHA

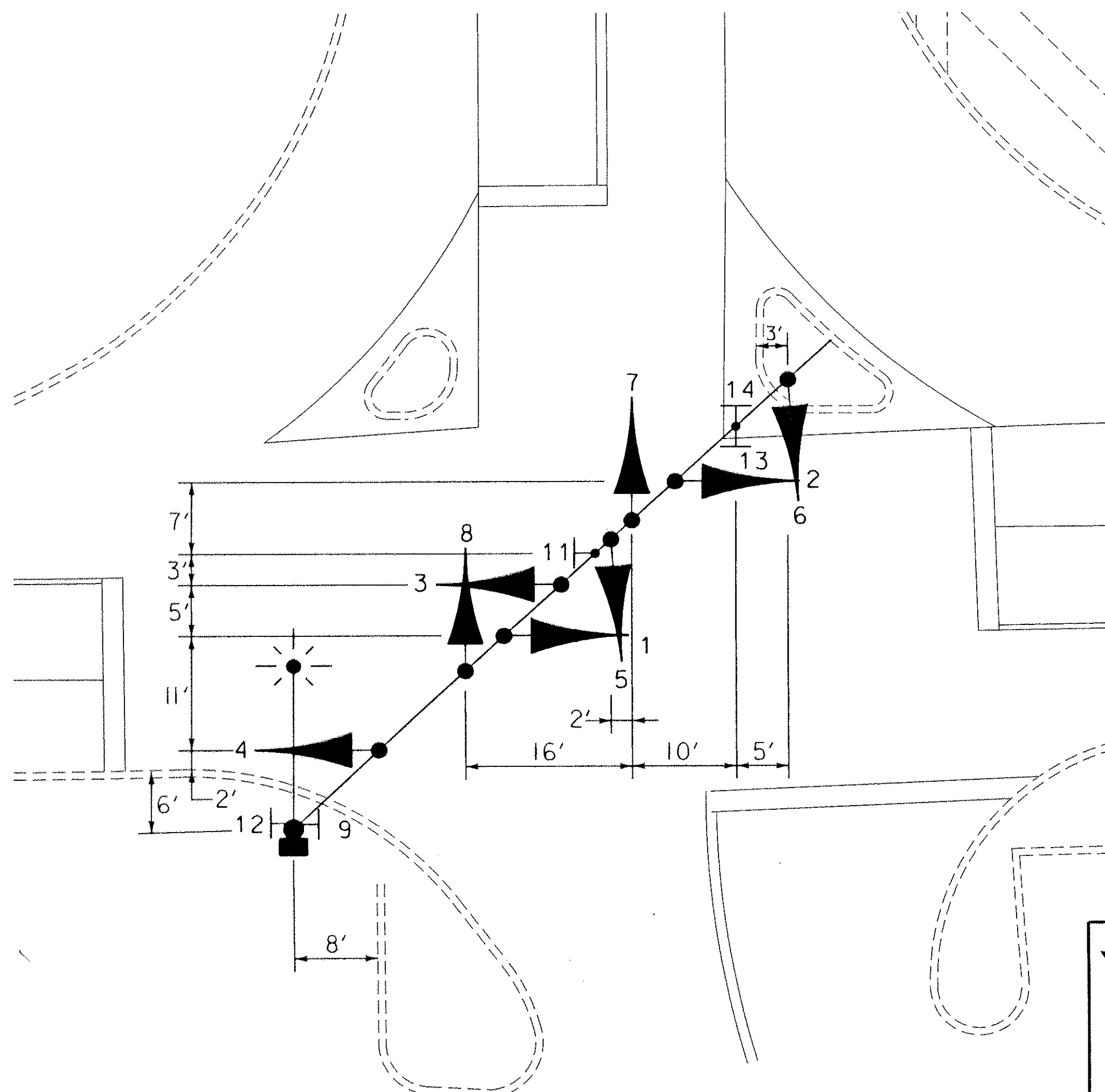
ITEM NO.	QUANTITY	DESCRIPTION
9000	1 EACH	27 FT. STEEL POLE AND 70 FT. MAST ARM WITH ANCHOR BOLTS
9002	2 EACH	FOUR-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
9087	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER WITH INTERSECTION MONITOR HOUSED IN A NEMA SIZE "5" POLE MOUNTED CABINET
9089	60 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF : <ul style="list-style-type: none"> <li>- 1 EACH W3-3 SIGN (36 IN. x 36 IN.) WITH "NEW" PANEL (30 IN. X 30 IN.) AND FLAG - GROUND MOUNT</li> <li>- 1 EACH D-3(1) SIGN (VARIABLE x 16 IN.) DUAL FACED - MAST ARM MOUNT</li> <li>- 1 EACH R10-12 SIGN (36 IN. x 42 IN.) - MAST ARM MOUNT</li> <li>- 2 EACH D-3(1) SIGN (VARIABLE x 16 IN.) - POLE MOUNT</li> </ul>

## PHASE CHART



## DIMENSION DIAGRAM

SCALE 1" = 10'



## EQUIPMENT LIST "B"

### B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	QUANTITY	DESCRIPTION
1001	1 EACH	MAINTENANCE OF TRAFFIC PER ASSIGNMENT
2002	2 C.Y.	TEST PIT EXCAVATION
8011	20 EACH	FURNISH AND INSTALL 12 IN. VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8013	1 EACH	FURNISH AND INSTALL 15 FOOT LIGHTING BRACKET ARM FOR TRAFFIC SIGNAL STRUCTURE
8014	1 EACH	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCELL
8019	6 EACH	FURNISH AND INSTALL 8 IN. VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8020	1 EACH	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT (120/240 V, 1 PHASE 3 WIRE SYSTEM)
8029	2 EACH	FURNISH AND INSTALL MICROLOOP PROBE SET WITH 500 FT. LEAD-IN
8039	1 EACH	INSTALL MAST ARM POLE AND 70 FT. MAST ARM
8051	50 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8057	5 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
8059	20 L.F.	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4 IN. X 6 IN.
8060	40 L.F.	FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE
8061	30 L.F.	FURNISH AND INSTALL 1 IN. ELECTRICAL CONDUIT - GALVANIZED RISER
8068	60 L.F.	FURNISH AND INSTALL 1 IN. LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR WIRE SLEEVE
8070	45 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 1 CONDUCTOR NO. 4 A.W.G. - THHN/THWN
8074	16 S.F.	INSTALL GROUND MOUNTED SIGN
8075	44 S.F.	INSTALL OVERHEAD SIGN
8080	1 EACH	FURNISH AND INSTALL GROUND ROD - 3/4 IN. DIAMETER X 10 FOOT LENGTH
8081	400 L.F.	INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
8084	120 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G.)
8085	350 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G.)
8086	60 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G.) TYPE TC
8087	1430 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN 1/4 INCH FLEXIBLE TUBING (NO. 14 A.W.G.)
8088	490 L.F.	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
8092	1 EACH	INSTALL CONTROLLER AND CABINET - POLE MOUNT



MARYLAND DOT - STATE HIGHWAY ADMINISTRATION  
Office of Traffic & Safety

TRAFFIC ENGINEERING DESIGN DIVISION

GENERAL INFORMATION SHEET

TOLLGATE ROAD AND BOULTON STREET



Whitman, Requardt  
and Associates, LLP  
2315 Saint Paul Street  
Baltimore, Maryland 21218  
(410) 235-3450

DRAWN BY: S. BLOSS	F.A.P. NO.	TS NO.	SHEET NO. 2 OF 2
CHECKED BY: N. LEARY	S.H.A. NO. XX1065385	TS-4133	
SCALE: NONE	COUNTY: HARFORD	T.I.M.S. NO. E629	
DATE: 8/27/01	LOG MILE:		